THE

Johns Hopkins

November 1953 · 15c

IN THIS ISSUE

A Baby's First Day

Out of the Dark, a Red Grenade

IT WAS AN APRIL NIGHT and the Marines, near Panmunjom, were under heavy attack. In one of E Company's machine gun emplacements, Corporal Duane Dewey and his assistant gunner lay on the ground, wounded. A Navy Medical corpsman was giving them aid.

Out of the darkness, and into the group, lobbed a live Red grenade. Although he was already seriously wounded, and in intense pain, Corporal Dewey pulled the aid man to the ground, shouted a warning to the other Marine and threw himself over the missile.

"I've got it in my hip pocket, Doc!" he yelled. Then it exploded. By smothering the blast with his own body, Corporal Dewey had saved his comrades' lives.

"Now that I'm back in civilian life," says Corporal Dewey, "I sometimes hear people talk as though stopping Communism is a job only for our armed forces and the government. Believe me, it's a job for you and me, too. And one way we can both do that job is to make our country stronger by *making our own families more secure*—through saving and investing in United States Defense Bonds. Bonds are real protection—for my money!"

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THE COVER

The young mother on the cover is holding her first baby, who was born only a short time before this picture was made. In this issue The Johns Hopkins Magazine tells the story, in photographs, of the baby's first day—beginning with the moment of birth and continuing through the activities of the next twenty-four hours. It starts on page 14.

PHOTOGRAPH BY ROBERT MOTTAR

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EDITORS' NOTES

AN INFORMAL REPORT

We have had trouble getting any work done this month. The scene which we see whenever we look up from our desk is distracting in the extreme; each time our gaze wanders we have more trouble than the time before, bringing it back to our work where it belongs.

For this is the month of incredible colors on the trees, and we are situated right in the midst of them. We are faced with an irresistibly seductive view all day long.

In the morning the sunlight strikes the trees head on, and the bright yellows and reds, set off by a deep-green pine here and there, are gloriously dazzling. Around noon, as the sun stands overhead, shadows begin to appear in the leafy masses, adding dark accents to the shouting colors. Since the trees are tall, the sun drops behind them fairly early in the afternoon, and the whole scene then is muted and magnificent in shade. Hour after hour, something new and brilliant is going on.

For most city people, such things are occurring out of sight, except on Sundays, perhaps, during the weekend drive. We consider ourselves particularly fortunate to have a front-row, and all-day, seat—even if it does mean that we have to work nights as long as the spectacle lasts, catching up on the jobs that in daytime we don't get done.

We found on our desk this morning a letter from an encyclopedia editor, asking permission to reprint a photograph from a back issue of this magazine. The picture, with which the editor wanted to illustrate an article on Dr. Einstein, was described as follows:

"The four-dimensional world-line of a boy playing with 'Slinky,' projected on three-dimensional space and reprojected on the two-dimensional page 29 of your January, 1953 issue."

This had us buffaloed for a minute, until we turned to the page specified. There we found that the picture was a long-exposure photograph, showing the action of a toy over several seconds of time. Thus the fourth dimension, we suppose.

Now, however, we must project a question onto *this* two-dimensional page: What, please, is a world-line? We have looked it up in Webster's, but the closest thing we can find is "world series." Which, we fear, won't do.

A few weeks ago, the Johns Hopkins campus was swarming with new students taking part in a pre-school program called "orientation week." While it was in progress, one of the upperclassmen who acted as leaders during this program dropped by our office to say hello, and we put the usual question to him, "How does the new class look?"

"Ugh," he said.

A couple of years ago, this would have rocked us back on our heels and caused us to fear for the future of student affairs, but we are wiser now. We can remember when our visitor was a freshman himself, and we asked one of *his* leaders how the new men measured up.

"Ugh," he said.

Naturally, the class is turning out to be one of the best in the history of the University, judged in the only slightly rose-colored light of the present. And so will the Class of '57, we venture to predict. We will know for sure a year or so from now, when one of its members drops in and we ask him how the Class of '59 looks.

"Ugh," he will say, holding aloft the flame.

One of the events of orientation week is a tour of the University for the new students. The men break into small groups and are conducted from one campus wonder to another by upperclass guides, who point out each high spot in reverent tones.

This year, much to our surprise, we found ourselves on the route. We were quietly downing our afternoon coffee when outside our windows there arose a great crunching noise. Fifteen new

students, plus guide, approached down our cinder path. To our horror the crunching sound ceased, the students gathered around their leader, and a hush fell over the group as he pointed out grandly that inside this building (he nodded in our direction) is published *The Johns Hopkins Magazine.*

We abandoned our coffee, rushed to our typewriters, and set up as busy a clatter as we could. We maintained it for the rest of the afternoon as we were described to group after wide-eyed group. We hope that they were suitably impressed, although in reality all we were able to write, in the bright glare of this sudden limelight, was something about a slick brown box jumping over a crazy gog.

From one end of the Johns Hopkins University's Homewood campus to the other, clouds of dust and the sounds of construction are rising this fall. As we told you in our issue of last June, three new buildings are planned for this campus: an engineering building, which will complete Homewood's main quadrangle after nearly forty years; a dormitory; and Shriver Lecture Hall, which will provide auditorium space which the University has needed for a long time.

For a couple of months after our article announcing the imminent construction appeared, there was a conspicuous absence of building activity, and we began to get a little worried for fear we'd have to take it all back. Steel shortages and various labor difficulties in the building trades had delayed the work a bit, but suddenly, on all sides, everything broke loose at once. Overnight, or so it seemed, the steelwork rose for Shriver Hall; a giant pile driver was jockeyed into place and the foundation work on the engineering hall began; and steam shovels dug a vast hole where the dormitory is to be built. Right at the moment, most of the place is, frankly, a dusty mess; but the way things are moving now, this condition shouldn't last for long. Then the really fascinating stages of construction will be reached, and as a mecca for sidewalk superintendents the Johns Hopkins campus will not have to take second place to any spot in town.

This doubtless will happen just as our autumn-leaves show ends (*see opposite page*). We see ourselves faced with a test of our concentration all winter long.

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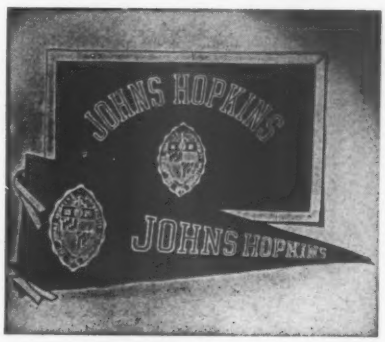

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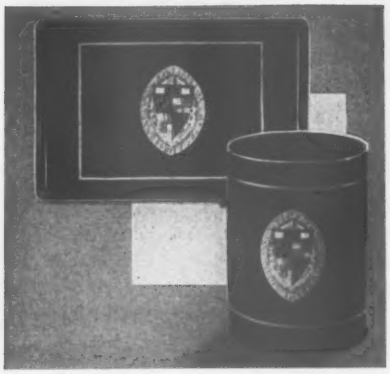

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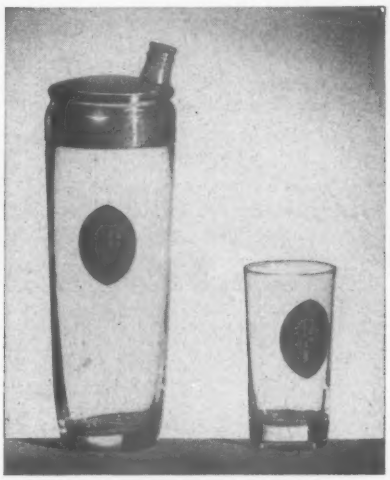

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WHAT FUTURE FOR RUSSIAN SCIENCE?

Unless conditions in the Soviet change, her already shaky science is sure to deteriorate. But some militarily important areas are strong

By CONWAY ZIRKLE

In spite of the fact that secrecy has become a Soviet fetish, the present status of science in Russia is known with fair accuracy. A nation may be able to conceal certain specific discoveries or certain technical applications, but the general state of its scientific research and development cannot be hidden or camouflaged. The scientists of the world know just how their specialities are faring everywhere.

This is fortunate for us because we should know what the Russians are accomplishing. Science is now growing at an unprecedented rate, and the future of any nation, its ability to work good or ill, will depend in great part upon whether or not its technology will enable it to keep up with its rivals.

We know the present status of Soviet science and we understand a great deal about the social forces which have conditioned its development—about the alarms and excursions which have reduced it to its present level. If conditions in Russia continue as they are, we can say definitely that her science will have no real future of its own. It will deteriorate, although it may be kept functional by what it is able to smuggle in from other countries.

Conditions in Russia, however, are not static. They are changing constantly, and these changes will determine the fate of her science. When we try to predict these changes, we are faced with great uncertainty, for here we enter a realm where our basic information is too incomplete to allow us to draw definite conclusions. The best we can do is to list the most reasonable alternatives; we are on much firmer ground when we evaluate the effects of the specific actions which the Russians may, or may not, take. A reversal of the present policies might well restore all the Russian sciences to health. But as things now stand, we can write off a number of Russian sciences as nonexistent.

The growth of science has been extraordinarily spotty, both as to place and time. At no one time, however, has science ever been healthy over more than a tiny portion of the earth's surface, nor have the scientists themselves formed more than a minute fraction of the population of even the leading scientific nations.

The real growth of modern science, from the Renaissance until late in the nineteenth century, was in fact limited to a minor portion of Europe: to the central and northwestern regions. Science in the rest of the world was both derivative and backward. In spite of the fact that some good science and a few outstanding scientists were found in both the United States and Russia, it was not until the last seventy-five years that

these nations made their bids to become leaders in scientific research, and it was not until after the first world war that their bids could be taken seriously.

First-rate science, of course, depends upon the existence of first-rate scientists, and there are no techniques for developing just "anyone" into a scientist. Those who can be so developed are always rare, even under optimum conditions. Nothing is easier than to increase the number of men we *label* scientists, but nowhere is it more dangerous to substitute quantity for quality than in the development of scientific personnel.

The failure to recognize this led perhaps to the first major error of the communists. Their continuing failure to recognize that all men are not equal is still a major hazard to the recovery of their science.

THE AUTHOR

Dr. Zirkle, who received his Ph.D. at Johns Hopkins in 1925, is professor of botany at the University of Pennsylvania. He is author of *Death of a Science in Russia.* The accompanying article, the second in a series (the first, "Growth of the Soviet Threat," by George F. Kennan, appeared last month), is a condensation of Dr. Zirkle's remarks at a seminar of the Hopkins School of Advanced International Studies. The full text of this and other articles delivered at the symposium will be published in January by the Hopkins Press.

But granting the possibilities of a recovery, what are the Russian potentialities? This question is easy to answer: they are good.

We know definitely that Russia can produce scientists who are really tops. She has already done so. Some Russian scientists have been as good as any which have been produced anywhere. In the early days of communism, when Lenin gave Russian science the full support of the state but before the dead hand of bureaucratic stupidity descended upon it, it made truly great progress. If Russia had been able to solve the problem of giving her scientists all of the state support they could use profitably, yet at the same time keeping them free, her science would have maintained its eminence and the whole world would have been the richer. Her failure to solve this problem was complete and, in time, disastrous.

We should consider, however, what might happen if Russian science should develop under ideal conditions and with no limitations on it except those set by nature. If we consider the history of Russian science, the unfavorable conditions which have inhibited it in the past, the size and quality of her present population, and her interest in and support of science, we can arrive at some provisional conclusions.

It is safe to assume that the number of her first-rate scientific contributions would be less than those of either the United States, Germany, or Britain, but more than those of France, Italy, or the smaller European nations. At times she should rank first or second in a science; third, fourth, or fifth in others; in some even less. But, over the years, she should be very good indeed.

All of this, however, presupposes that she discovers some method by which she can get out of her present difficulties and recover from the blight of her totalitarianism. For Marxist authoritarianism has interposed a number of major hazards to the development of an honest and objective science.

We can consider here but three of the more striking of these hazards. They are, first, the forced production of great numbers of really stupid and opportunistic "scientists" who, for self-protection, have had to destroy both the integrity of their science and the able men who might expose them;

Second, the final control and planning of science in communist lands, which remain in the hands of non-scientists—of career bureaucrats whose personal fortunes often conflict with the demands of intellectual integrity;

And third, the prevalence of Marxian dogmas which are in direct conflict with present scientific knowledge and thus limit the advancement of science.

We can be certain that Russian science will not prosper unless these hazards are removed. Moreover, there is one other basic condition which will have to be altered before her science can recover: the communists will have to correct their widespread and almost universal disregard of the truth. Where the truth is not valued for its own sake, science will lead a precarious existence.

The attempt to make good scientists out of essentially stupid men is so obviously futile that it is difficult for us to understand why any nation would attempt it. Yet this is what the Russians have tried to do.

They seem to have been led into the attempt through a blind application of a doctrinaire equalitarianism. Apparently they believed that *anyone* could be developed into a scientist.

It is quite true that no nation has ever developed all of its potentially good scientists. Many studies made on the origins and numbers of American scientists, for example, demonstrate this clearly. But the number which can be produced at any one time is never unlimited. In terms of the whole population, it is always small, and when attempts are made to develop a great many scientists very quickly, it does not take long before the available talent is exhausted.

Signs are multiplying that we cannot increase greatly the number of our scientists without lowering their quality to a dangerous extent. And another danger: the sciences are already beginning to deplete the brains of competing occupations. An excellent brain devoted to atomic physics is an excellent brain not devoted to the advancement of legal theory, to the history of art, to international relations, or to military strategy or logistics. Right now in our undergraduate institutions certain sciences have their pick of students with the result that some disciplines have to be content with second-raters. The limiting factor seems to be talent, not money. The situation in Russia is similar, but the Russians have not realized it.

In the days of Lenin, they started to create scientists in wholesale lots. They got quantity, but the average quality was so low that a great many could not pass their university examinations. But

Continued on page 28

In Congo area where most natives have been wiped out by fly-borne sleeping sickness is this research camp.

Vincent G. Dethier, professor of biology (*below*), poses before hut of natives who man the research base.

AFRICAN FLY HUNT

ONE of the most terrible diseases that attack mankind is infection with Trypanosoma gambiense—sleeping sickness. Heedless of age, sex, or economic level, it has cut a deadly swath through tropical Africa. It first was known along the rivers, particularly the Congo and its tributaries. Then Stanley's expedition to reach Emin Pasha probably introduced the scourge to virgin territory in Uganda and the Great Lakes region, where a terrible epidemic in one district alone reduced the population from three hundred thousand in 1901 to one hundred thousand in 1908. Bearer of the disease is the tsetse fly. This year Vincent G. Dethier (*left*), Hopkins biology professor, went to Africa to try to learn how the fly selects its victims. His fly-hunt and other travels are pictured on these pages.

PHOTOGRAPHS BY VINCENT G. DETHIER

Laboratories (*above*) are maintained in the Belgian Congo for studies of sleeping sickness, carried by tsetse flies.

A dugout "ferryboat" waits for passengers deep in tsetse-fly country, on river between Belgian Congo and Tanganyika.

HUMAN BAIT LURES FLIES

At field camps like the one at right, which is located near Kakitumba River, Dr. Dethier conducted his tsetse research.

To catch flies, natives work in two-man teams (*left*). Man in white picks off flies that have alighted on his partner.

Glossina brevipalpis, shown below in approximately twice its actual size, is disease-bearing fly in area pictures show.

Balancing a basket of flies, wrapped in banana leaf to keep catch moist and alive, leader and hunters return to camp.

CONGO SCENERY: PROTECTED AND WILD

Dr. Dethier's African travels, in addition to putting him on the tsetse's trail, took him to Albert National Park and to Mt. Kahusi, where animal life and vegetation put on wild shows (*right*). But most of his time was spent in base camps for tsetse and sleeping-sickness research, in which his mission was to study the fly's physiology—especially the senses used to locate and select its hosts. (Some tsetses bite only warm-blooded animals; others, only the cold-blooded.) Dr. Dethier discovered that the fly's antennae sense the skin temperature of prospective hosts and from this the fly apparently can discriminatingly choose the victims of its deadly bite. Aside from having a good smeller, however, the fly is ill-equipped to be a connoisseur: when Dr. Dethier heated inanimate objects to antenna-teasing temperatures, the flies bit hungrily.

A storm brews above a herd of dry-land hippopotami in Albert National Park, wildlife preserve in Congo.

Cloud-capped Mt. Kahusi towers over jungle, has a temperature span of from a hundred degrees at base to near freezing at top, causing vegetation variety.

Gorilla-inhabited bamboo forest occupies one level.

Above clouds graybeard moss drapes giant heaths.

Higher still, Dr. Dethier stands in lobelia growth.

THE RESTLESS SEARCH

"The history of all human advance is the history of man's finding new problems and then finding ways to solve them"

Scientists working to understand the weather have developed, in recent years, experimental models which bring the world's weather right into the laboratory. Thirty geophysicists and meteorologists met at Johns Hopkins University this fall for a symposium at which they demonstrated how laboratory models may be utilized to approximate the movement of the atmosphere, the patterns of ocean currents, and the motions at the earth's core itself. The symposium was arranged by the Hopkins civil engineering department and sponsored by the Office of Naval Research, with the cooperation of the Air Force and the Weather Bureau.

Dave Fultz, of the University of Chicago, showed how a dishpan may be used to simulate the circulation of weather around the earth. For his experiment he uses a circular pan filled with water. He carefully spins the pan to approximate the rotation of the earth. In addition, in order to imitate the movement of air between the equator and the poles, Dr. Fultz creates a temperature difference between the rim and the center of the pan. He cools the center so that it corresponds to the North Pole, and he heats the rim to make it correspond to the equator. The spinning water then very nearly duplicates the movement of air masses around the earth.

Dr. Fultz sprinkles aluminum flakes and dyes on the surface of the water so that the patterns and currents will be visible. As the pan spins, streams of different speeds develop, moving in long "waves" around the circle, going from the warm to the cold area, then shifting and starting back. By reckoning one turn of the pan as one day, Dr. Fultz can follow weather patterns around the world and gain new insight into the way in which weather changes develop.

A similar technique is used by William S. Von Arx, of the Woods Hole Oceanographic Institution, to simulate ocean currents. His model is a deep bowl containing water, which swirls around the sides as the bowl is spun. Mr. Von Arx blocks out certain areas to represent the continents and, using a vacuum cleaner running in reverse, he blows air into the bowl so that it corresponds to the trade winds.

Robert R. Long, of Johns Hopkins, demonstrated to members of the symposium a model he has developed for studying the movement of air over mountain ranges. He fills a narrow rectangular tank with two or three layers of fluids, the heaviest at the bottom. Then the mountain, a rounded block of wood, is drawn back and forth across the bottom of the tank.

Dr. Long has observed that as the layers of liquid pass over the mountain, the denser fluid tumbles down the other side, gathering speed as it goes. Then it jumps high into the "sky" before it settles back, a movement which suggests the strong updrafts pilots have observed near mountains.

Raymond Hide, of Cambridge, England, described his attempts to discover how the earth's magnetic fields are produced. His model is made up of three concentric cylinders filled with water of different temperatures. By rotating the cylinders and checking the patterns produced, Mr. Hide is investigating the theory that the movement of the earth's molten core may create convection currents which, in turn, may cause electromagnetic fields.

Laboratory models have a two-fold use for geophysicists. First, by observing these simplified versions of the world's weather, scientists expect to learn more about the basic principles involved. And second, with the models they can experimentally prove—or disprove—the theories which have already been developed about the movements of air and water around the earth.

Two Johns Hopkins chemists reported recently that they had succeeded in breaking, for the first time, the tremendous grip which some vital organic molecules have on their metal cores. This was the first time that the metal had been knocked loose without damage to the parts of the molecule.

The metallic elements are circled by organic "girdles" which hold them in so tight a grip that it had been doubted they could be removed without shattering the "girdle." But at a meeting of the organic division of the American Chemical Society, Alsoph H. Corwin and Winslow S. Caughey described how they managed to punch out the metal core.

Working with iron, cobalt, nickel, and copper, Drs. Caughey and Corwin found that they could arrange collisions involving two molecules of metal compound and four molecules of acid. In the smashups, the metal centers were removed.

These metallic elements are known to be of critical importance in the economies of living organisms. Especially chosen for study was copper, held by a framework known as etioporphrin, a close cousin to the colored part of the blood pigment and a second cousin to the green leaf pigments. Drs. Corwin

and Caughey also used molecules related to those in many of the enzymes which perform oxidations necessary for both plant and animal life. By such studies they hope to learn more about the functions of metallic elements in life processes and about the processes by which they are transferred from one use to another.

WERNER WOLFF, BLACK STAR

Alsoph H. Corwin

A STUDY of a small Pennsylvania religious sect has illustrated how racial differences, which now distinguish millions of men, may have come into being among the small tribes which inhabited the earth in prehistoric times. H. Bentley Glass, professor of biology at Johns Hopkins, described in an article in *Scientific American* the study which he made of the Dunker sect and its relation to the evolutionary force known as genetic drift.

Among anthropologists and geneticists, the belief has been increasing that the size of a population is an essential factor in the development of racial differences. In a large population the chances are all toward balance—boy babies and girl babies will be about equal in number, the proportion of blue eyes to brown eyes will remain approximately the same over many generations. But in a small group, chance may produce wide fluctuations. "If, in a small population, the initial proportion of brown eyes and blue eyes were equal," Dr. Glass suggested, "the following generation might by chance have forty-five per cent brown eyes and fifty-five per cent blue. This variation would then be expected to repeat itself by genetic law.

"However, the next generation might again by chance return to the fifty-fifty ratio or might shift to forty per cent brown and sixty blue. If the latter were to happen, the expectation for the next generation would again be shifted, and this cumulative change by pure chance is what is meant by genetic drift." In time the whole population might be blue-eyed and this characteristic be fixed, with only about a one-in-a-million chance of a mutation occurring which would change the color.

It has been hard to find any way to prove the validity of the theory of genetic drift as contrasted to natural selection. Many of the tiny isolated tribes which still exist in lonely regions show genetic traits which vary from the norm. The Thule tribe of Greenland, which now has only fifty-seven members, shows a very different proportion of blood groups O and A from other Eskimos with whom it shares a common heredity. And on the other side of the world, in southern Australia, blood examinations carried out on separate tribes—of the same stock but isolated from each other—showed that there were proportionately twice as many members of blood group A in one tribe as in another. "This is a situation," wrote Dr. Glass, "to be expected from genetic drift, for it is not likely that in small populations chance will act on unrelated genes in the same way. But here again it is impossible to prove that genetic drift is the real agent" instead of natural selection, which might vary with the different environments.

The only way to prove drift would be to study a small group of known origin which had for some time lived isolated among a larger cibilization. This seemed a nearly-impossible set of requirements. But then Dr. Glass and Milton S. Sacks, director of the Baltimore Rh Typing Laboratory, realized that they might find what they wanted among some of the small religious sects whose strict marriage laws created the necessary isolation.

They chose the Dunker sect of Franklin County, Pennsylvania. The sect had been founded in 1708 in two German centers, and within twenty years fifty families had moved to America. These fifty families all settled around Germantown, Pennsylvania, and from them nearly all of the Dunkers were descended. They grew rapidly in number, but they continued to move west so that the original Pennsylvania communities never themselves grew very large. The community of Dr. Glass' study now numbers only three hundred persons, and for several generations the number of parents has remained around ninety.

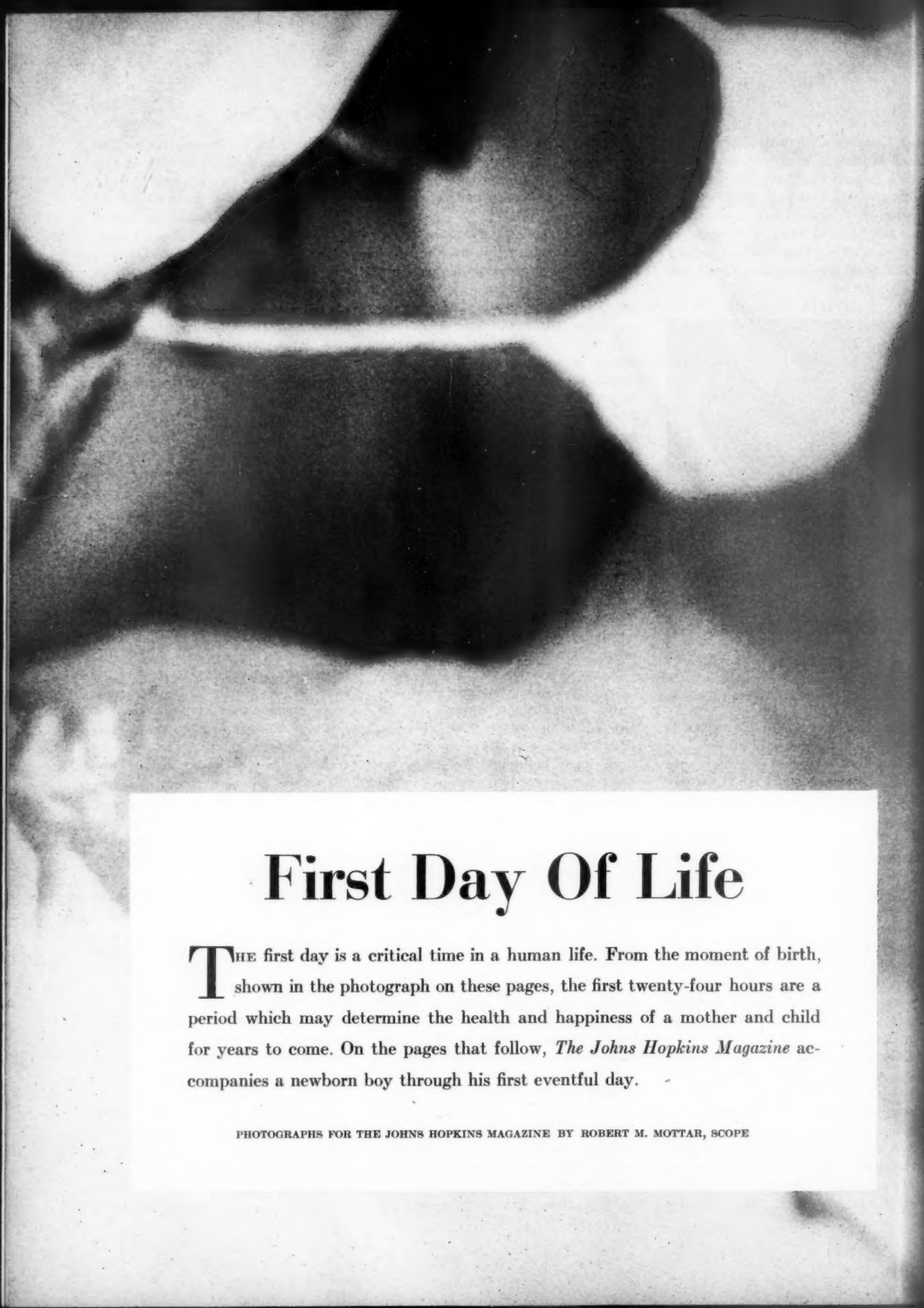
The genetic isolation of this group is remarkable. Without the extremes of dress and custom which distinguish some of the sects, the Dunkers live about as do their neighbors: they are mainly farmers, they send their children to public schools, they have cars and live in modest houses. But their strict religion means that there are few converts and therefore they marry—and have married for generations—almost exclusively within their own community.

Thus they filled almost exactly the geneticist's requirements for proving the existence of genetic drift. Dr. Glass could compare the Dunkers with their neighbor Americans and also, since their exact origin was known, with the genetic traits of their homeland in Germany. "If natural selection or intermarriage were to influence their gene frequencies, these frequencies would shift from those of the homeland toward those characteristic of the large surrounding population. But if any sharp divergencies showed up, they would be attributable not to natural selection but to genetic drift."

Dr. Glass compared records of a number of characteristics which are believed to be hereditary and non-adaptive. He examined the frequency of appearance of different blood groups. He studied the amount of lefthandedness. He compiled information on unique characteristics of ear lobes and thumbs and the hair on hands.

The findings were clear and definite. The Dunkers were neither like the Germans from which they came nor like the Americans among whom they lived. Nor were they like anything in

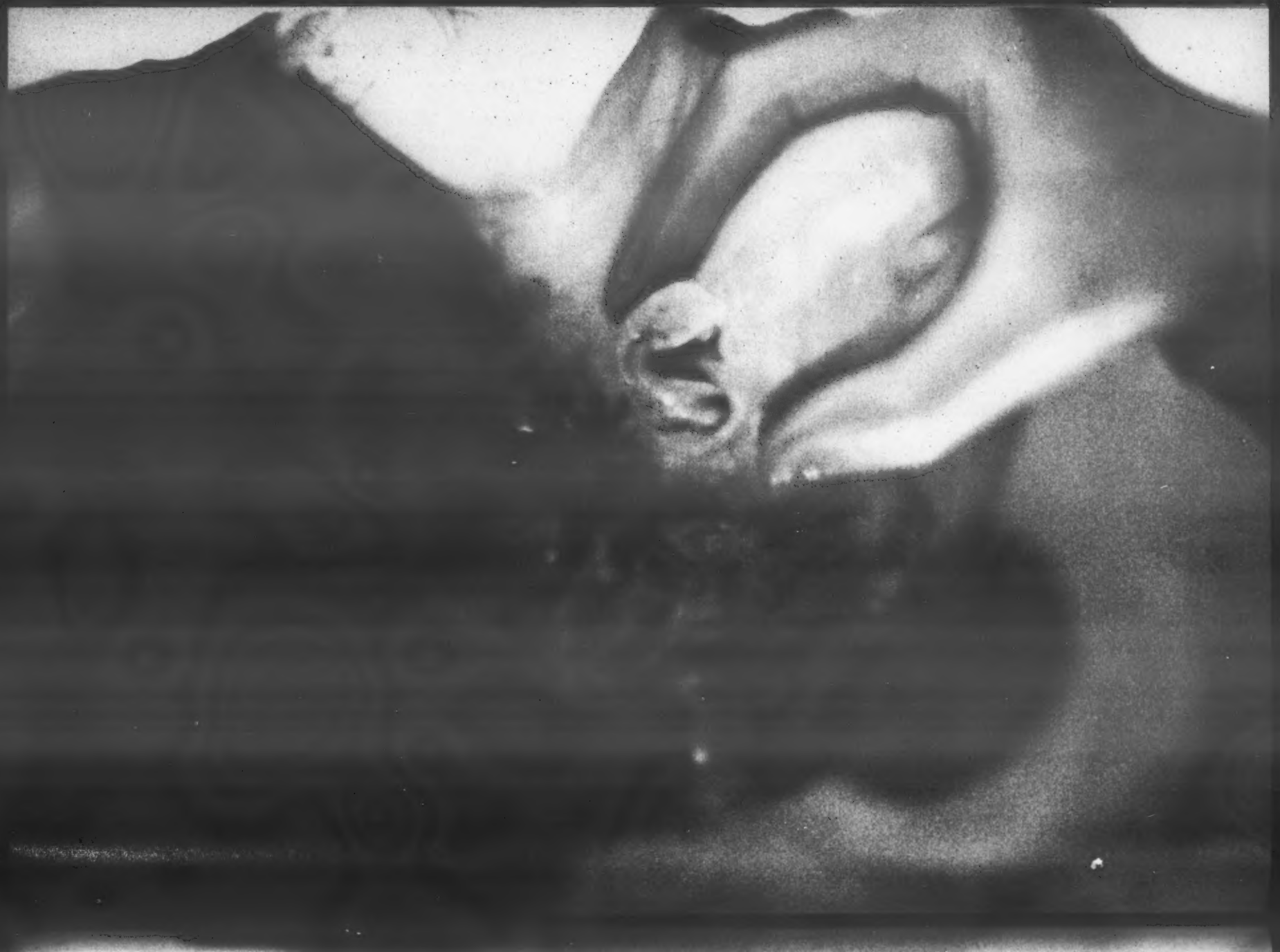
Continued on page 28



First Day Of Life

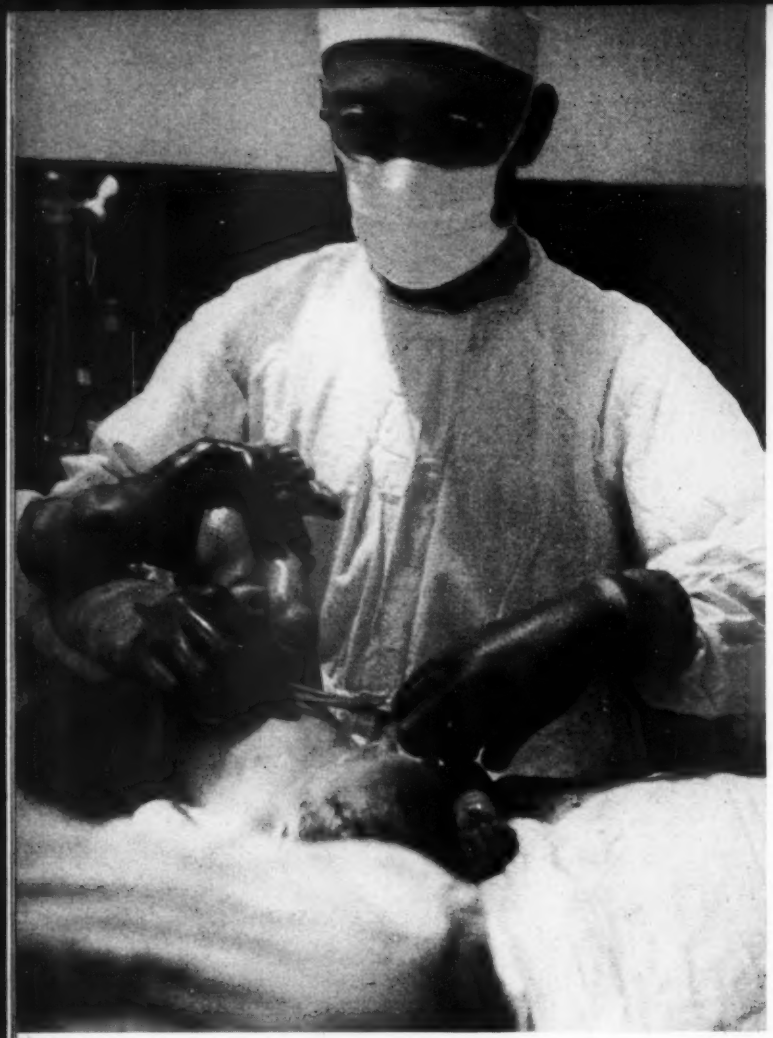
THE first day is a critical time in a human life. From the moment of birth, shown in the photograph on these pages, the first twenty-four hours are a period which may determine the health and happiness of a mother and child for years to come. On the pages that follow, *The Johns Hopkins Magazine* accompanies a newborn boy through his first eventful day.

PHOTOGRAPHS FOR THE JOHNS HOPKINS MAGAZINE BY ROBERT M. MOTTAR, SCOPE



THE BUSY, QUICK FIRST MINUTES

In the delivery room, in the first quick minutes after birth, the activity centered around the newborn baby is intense: a whiff of oxygen, the careful identification routine, preliminary examinations, medication of the eyes—and the joyful mother's first, proud view.



Only seconds after birth, umbilical cord, through which baby has been sustained by its mother, is clamped and cut by obstetrician.

Though baby is already breathing, a nurse gives pure oxygen as aid.

Then bracelet spelling out name of mother is placed around ankle.

While baby is still in the delivery room, obstetrician makes first exam.

To aid in the preliminary check-up, nurse holds open the baby's mouth.

As a safeguard against infection, penicillin ointment is put in eyes.

The first steps finished, the baby is shown to its mother. It's a boy.

DAY OF BIRTH
Continued

Working at delivery room table, the obstetrician ties the umbilical cord.

To accompanying wails from sleepy subject, birth weight is recorded.

Still protesting, baby has diameter of head measured and put in record.

THE FIRST STATISTICS

The first page in the new baby's medical history is compiled even before he leaves the delivery room. But the baby, whose instincts tell him that the thing to do is to sleep, is happy only when it is finished (*right*).

◄ Tiny beside the doctor's hands and arms, baby's head is measured (*left*). Finally all examinations are completed; baby is readied for bed. ►

DAY OF BIRTH

Continued

FIRSTS, ONE AFTER ANOTHER

First bath

Not a full-fledged bath, actually, but a shampoo, is given to the baby after his arrival in the nursery.

First bed

Fresh from delivery room, baby gets bed in hospital nursery. Except at feeding hours, he will remain here.

First clothes

In nursery he is swathed in the first of thousands of diapers he is destined to wear in months to come.

First exam

Pediatrician gives baby its initial physical (examinations in delivery room were made by the obstetrician).

Through nursery window, father has first view of newborn son.

TWO IMPORTANT MEETINGS

Most of the things that happen to an infant during its first day, as the pictures on the preceding pages show, are seen only by the professional people—the doctors and nurses—on duty in the hospital's delivery rooms and nurseries. They employ their skills, and the instruments and techniques of medical science, in the job of getting the child's life off to a good start. But in a week's time, usually, their job is finished. Therefore the two events shown in the photographs above and on the opposite page, in which the hospital people are only bystanders, are among the most significant in the child's first day.

After receiving careful instructions, mother holds her baby close for first nursing. ➤

SCHOOL OF HYGIENE AND PUBLIC HEALTH

A Johns Hopkins Gazette

AN UNOFFICIAL COMPENDIUM OF FACULTY AND ALUMNI APPOINTMENTS, HONORS, AND ACCOMPLISHMENTS

THE ALUMNI

Frank T. Stockton, PH.D.'11 (Economics), has retired as dean of university extension at the University of Kansas. He will continue on the staff as director of special extension projects and professor of economics.

Rudolf Goldschmid Sonneborn, '15–'17 (Arts), has taken the post of president of L. Sonneborn Sons, New York.

William F. Meggers, PH.D. '17 (Physics), received on October 21 the Elliott Cresson Medal from the Franklin Institute of the State of Pennsylvania. Dr. Meggers is chief of the spectroscopy section of the National Bureau of Standards. He was awarded the medal for "his monumental work throughout four decades in the field of spectroscopy."

Herbert Hoover, Jr., G. '25–'26 (Chemistry), has been named a special adviser on world-wide petroleum matters to Secretary of State John Foster Dulles.

Brinton Harvey Stone, B.A. '27, G. '28–'32 (Geology), has been named vice president of the College of Idaho.

Keith Powlison, PH.D. '28 (Political Economy), has been elected secretary of the Armstrong Cork Company in Lancaster, Penna. He has been vice president and controller of the company since 1943, and he will retain his position of vice president.

Charles P. Harper, PH.D. '37 (Political Science), has been advanced to a professorship in political science at Marshall College.

Edward Joseph Scott, G. '37–'38 (Mathematics), has left the University of Illinois to become associate professor of mechanics at Kansas State College.

Lope Madlambayan Yutuc, M. SC. '39 (Hygiene), has been named associate professor in the College of Veterinary Medicine at the University of the Philippines.

Genevieve Miller, M.A. '39, FAC. '43–'48 (History of Medicine), has taken the post of assistant professor of medical history at Western Reserve University School of Medicine.

Easton Stuhr, B.S. '40, has been appointed associate professor of English at Martin College in Pulaski, Tenn.

John E. Gregory, FAC. '40–'45 (Pathology), has become associate professor in the Bowman-Gray College of Medicine, Salisbury, N. C.

John Ellis Eichenlaub, B.A. '42, M.D. '45, has been appointed assistant professor of hygiene at the University of Illinois.

Duncan MacRae, Jr., B.A. '42, has been named assistant professor of sociology at the University of California, Berkeley.

Thomas S. Eichelberger, B.E. '43, B.E. '47, G. '47–'50 (Mechanical Engineering), has been promoted to assistant professor of mechanical engineering at Lehigh University.

Raymond Huck, G. '45–'46 (Mathematics), has been appointed assistant professor of mathematics at Marietta College.

Werner R. Juhle, '47–'49 (Engineering), PH.D. '53 (Geology), has disappeared and is feared drowned during an Alaskan expedition. A member of a U. S. Geological Survey team, Dr. Juhle vanished early in September while on a solitary field trip into Katmai National Monument.

Raymond W. Young, PH.D. '49 (Political Science), has taken the post of associate professor of political science at Hood College.

Michael McGean, G. '49–'50 (Education), has been named assistant to the secretary of Dartmouth College.

Herman Glaser, PH.D. '50 (Physics), has been appointed associate professor of physics at Hofstra College.

Jean Crowley Antonmattei, M.P.H. '53, has become deputy commissioner of health in Milwaukee.

Melvin Roger Davis, M.P.H. '53, has taken the position of director of the Prevention and Control Center of the Oklahoma State Department of Health.

Jose Lima Pedreira de Freitas, M.P.H. '53, has been appointed adjunct professor of parasitology, Faculdade de Medicina de Ribeirã Preto, Brazil. He also holds a five-year appointment,

lasting until 1957, as an expert adviser in parasitology to the World Health Organization.

DEATHS

Malcolm John Cameron, B.A. '91, September 13, 1953.

Frank R. Ferlaino, M.D. '27, September 2, 1953.

Thomas K. Galvin, lecturer in obstetrics and obstetrician '49–'53, September 19, 1953.

Francis J. Haas, G. '20–'21 (Political Economy), August 28, 1953.

James Graham Hardy, PH.D. '98 (Mathematics), September 5, 1953.

Harry Miles Johnson, PH.D. '12 (Psychology), August 15, 1953.

Thomas Franklin Kane, PH.D. '95 (Latin), April 10, 1953.

Herman Rudolph Kurrelmeyer, B.A. '99, PH.D. '02 (German), August 28, 1953.

John Hanson Thomas McPherson, B.A. '86, PH.D. '90 (History), September 19, 1953.

John Martin Pierce, G. '86–'88 (Psychology), April 13, 1952.

Douglas T. Prahl, B.S. '28 (Economics), March 9, 1953.

Alex Van Rensselaer Schermerhorn, B.A. '00, March 18, 1953.

Ruth Brewster Sherman, Graduate Nurse '01, September 16, 1953.

Martin B. Stubbs, PH.D. '92 (Chemistry), June 26, 1953.

William M. Thornton, Jr., FEL. '16–'17, FAC. '19–'37 (Chemistry), September 22, 1953.

Mary Roberta Wagner, B.S. '32, M.ED. '48, September 5, 1953.

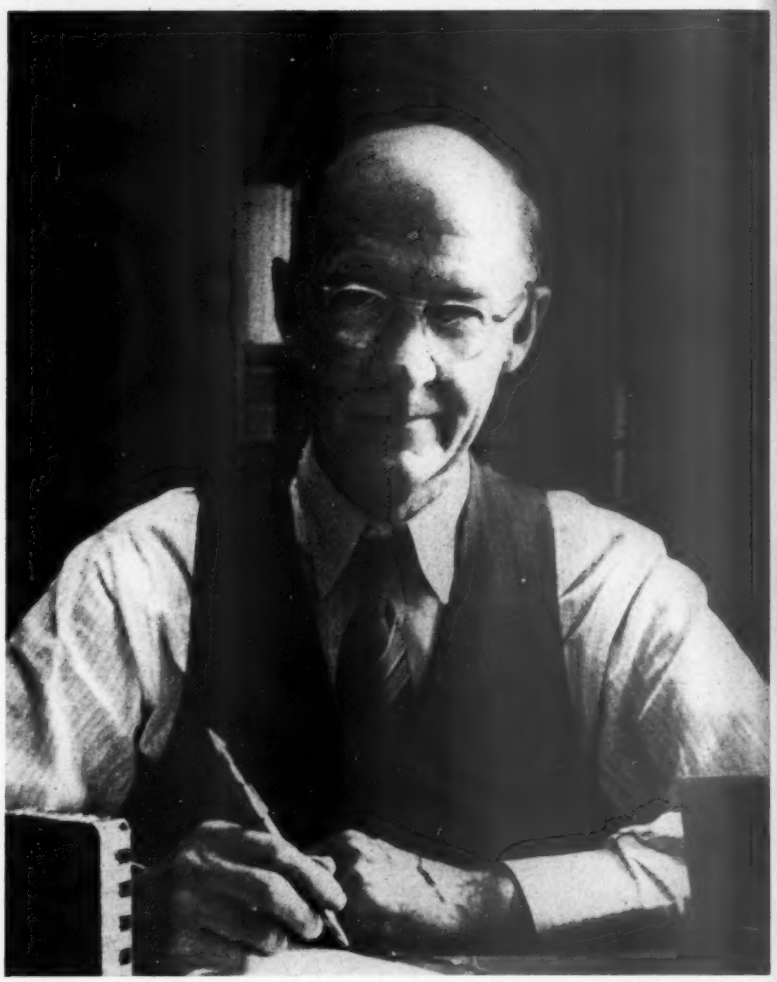
John Godfrey Watt, B.A. '52, July 9, 1953.

John W. Williams, M.P.H. '27, May 19, 1953.

BOOKS

Errett C. Albritton, M.D. '21, editor: *Standard Values in Blood* (prepared under the direction of the Committee on the Handbook of Biological Data, American Institute of Biological Sciences, National Academy of Sciences —National Research Council, $4.50).

George W. Corner, professor of embryology and director of the department of embryology, Carnegie Institution of Washington, and S. D. Aberle: *Twenty-Five Years of Sex Research* (a history of the work of the Committee for Research in Problems of Sex, National Research Council, $4).



ROBERT MOTTAR, SCOPE

Alexander Graham Christie

George Gamow, FAC. '34–'35 (Physics): *Mr. Tompkins Learns the Facts of Life* (Cambridge University Press, $2.75).

W. Braddock Hickman, PH.D. '37 (Political Economy): *The Volume of Corporate Bond Financing Since 1900* (Princeton University Press, $7.50).

Gustave J. Martin, SC.D. '35 (Hygiene): *Biological Antagonism* (Blakiston, $8.50).

Lynn D. Poole, director of public relations and producer of the Johns Hopkins Science Review: *Your Trip Into Space* (McGraw-Hill, $2.75).

THE FACULTY

AT THE SCHOOL OF HYGIENE AND PUBLIC HEALTH, Ralph E. Thorson has resigned as instructor in parasitology to become associate professor in the department of pathology and parasitology, the Veterinary School of Alabama Polytechnic Institute.

IN THE SCHOOL OF ENGINEERING, Alexander Graham Christie, professor emeritus of mechanical engineering, has been announced as the first recipient of the George Westinghouse Gold Medal. The American Society of Mechanical Engineers has established the award to honor "eminent achievement or distinguished service in the power field of mechanical engineering." The presentation will be made to Professor Christie at the annual meeting of the society, to be held in New York in December.

IN THE FACULTY OF PHILOSOPHY, Charles W. Eriksen has resigned as assistant professor of psychology to become lecturer in psychology in the department of social relations, Harvard University.

Richard S. Lazarus, assistant profes-

Continued on page 28

Americans Are Rolling Up Their Sleeves!

YES, ALL KINDS OF PEOPLE ARE GIVING BLOOD SO THAT OUR WOUNDED MAY LIVE!

● Today, the blood of a Boston bookkeeper may be flowing through the veins of a wounded kid from a Kansas farm... the blood of a pretty Southern housewife may have saved the life of a grizzled leatherneck. For, blood is blood, a God-given miracle for which there is no substitute . . . and when a man's life hangs in the balance and blood is needed, there is nothing else to take its place!

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But—

WHAT HAPPENED TO THAT PINT OF BLOOD YOU WERE GOING TO GIVE?

Call Your American Red Cross Today!

sor of psychology, has become associate professor of psychology at Clark University.

Clarence D. Long, professor of economics, has been appointed to the staff of President Eisenhower's Council of Economic Advisers.

Arnold C. Harberger has resigned as assistant professor of political economy to become associate professor of economics at the University of Chicago.

IN THE SCHOOL OF MEDICINE, Richard H. Follis, Jr., has resigned as associate professor of pathology to become professor and head of the department of pathology at the University of Utah School of Medicine.

Robert A. Robinson has been appointed professor of orthopedic surgery.

The Restless Search

Continued from page 13

between. He concluded that genetic drift was clearly shown in the development of these people.

Dr. Glass then added that "it is my opinion, no doubt open to dispute, that most inherited racial differences [were established by genetic drift] and were not materially aided by natural selection. Some traits, of course, must originally have been fixed by selection. Dark skin is probably a biological advantage in the tropics, while pale skin may be an advantage in weaker northern light. The same may hold true for kinky hair as against straight hair, for dark eyes as against light eyes, and the like. . . .

"[But I am skeptical of the influence of selection] when I think of the prevailing hairlessness of man in many regions where more body hair would have helped to keep him warm. I am particularly skeptical of any selective advantage in blondness, 'the most distinctive physical trait or group of traits shown by Europeans.' It seems more likely that these traits confer no advantage to speak of, in Europe or elsewhere.

"I would add that if blonds had been eliminated by selection in other parts of the world, and if a blond type happened by genetic drift to become established in Europe, then it could have persisted and spread in large populations and given rise to the present racial distribution of the blond caucasoid or 'Nordic' man."

What Future For Russian Science?

Continued from page 6

this inconvenience was overcome by a typically communistic remedy. "Cooperation" was the answer. The students were divided into small groups who passed their examinations altruistically, with mutual aid and assistance. When a group was successful, all the members became scientists. Some of the horrifying examples of ignorance and stupidity which some Soviet scientists now display can be traced to those who passed their examinations cooperatively.

We must not overlook the fact, however, that Russia still has many good scientists and that, in certain fields, some of them are still doing excellent research. In other fields, however, the good scientists have been swamped by the incompetents and have been forced by the clamor of their colleagues and by political pressure to recant and to forswear any knowledge which conflicts with Marxian orthodoxy or which the "new" scientists find puzzling.

The best illustration of this is to be found in genetics. Anything in this science which is too complicated for Lysenko to understand is now wrong and reactionary. We in the West see little of these horrible specimens, for only rarely are any of them allowed to leave their homeland. Occasionally, as when some party-line biologists were sent to the International Botanical Congress in Stockholm in 1951, and later sent to comfort the faithful in England, we catch a glimpse of them. They turned out to be fascinating, for they did not know how funny they were. If all Russian scientists were as bad as their biologists, Russian science would be a joke—but in certain other fields Russian scientists are really good.

CAN the Russians recognize their mistakes and correct them? Perhaps, but there are obstacles in the way.

They must first change some of their basic concepts and, in addition, they must have the fortitude to face some inconvenient facts. They must learn to judge between two conflicting hypotheses on the basis of the evidence—and not on eloquent but unsupported claims. They must learn not to accept automatically the hypotheses which promise the most.

One of the reasons why the central committee of the communist party decided in favor of Lysenko and outlawed genetics was that Lysenko promised more than any good scientist would dare promise. In fields where the results cannot be measured simply or directly, the big promise may win until it is too late to correct the choice. The naïve environmentalism of the communists makes big promises seem reasonable—even promises which cannot be checked without complicated scientific controls—and we have evidence that those in final authority in Russia have no understanding of scientific controls.

WERNER WOLFF, BLACK STAR

Any hypothesis which promises less than the maximum is suspected automatically and is taken as evidence of sabotage. Those who support it are attacked as bourgeois reactionaries and enemies of the people. In addition to this, all research which discloses unwelcome facts is discouraged. The study of identical twins, for example, gives some valuable data on both the hereditary and environmental variables, but the implications of the discoveries made here were obviously resented. It is significant that work at the Maxim Gorky Institute on identical twins was stopped suddenly in 1939 and nothing further was heard of the psychologists in charge of the work. Intelligence tests also give results that the communists do not like, so intelligence tests must go.

The second hazard to the development of a sound science is the fact that the final control and planning of science in communistic countries is in the hands of non-scientists. Professor Michael Polanyi has shown that when the final authority in science is not possessed by the scientists themselves, quacks will flourish and ultimately dominate the field. This occurs because the technically untrained are unable, in the last analysis, to distinguish between scientists and charlatans, and secondly, the plausible oversimplifications of quackery always have an immense popular appeal. Even with the very best intentions, the political authorities cannot decide scientific questions. It is only when science is autonomous and scientists are free to expose quackery as it arises that imposters can be exposed before they reach positions of power.

This is true in all nations and not just in Russia. We have many examples right in Washington. What we call "scientific method"—tests which are quantitative, with sufficient controlled experiments—seems to be just beyond the grasp of the generality.

A recent incident, for example, is to be found in the method of establishing the claims of a very famous battery additive. In a congressional committee hearing, Senator Edward Thye of Minnesota is reported to have said, "That means more to me than the technical talk of a bunch of chemists. . . . If a good, hard-fisted businessman has used the product . . . and is fool enough to come up and place orders month after month, what is the matter with him? Or, otherwise, what is the matter with the Bureau of Standards test?"

This "satisfied-customer" method, which so impressed Senator Thye, has been, of course, the standard procedure of the patent-medicine manufacturers for several generations. Testimonials have "proved" many times that any nostrum can cure anything. (Fortunately the American Medical Association has other standards.) But we can imagine what would happen if our scientists were not free to protest and if they had to hail Secretary Sinclair Weeks and Senator Thye as the greatest scientists of all time.

In Russia, not only is the party line in science drawn by non-scientists, but in addition certain dogmatic formulas of research are insisted on. Here it is not the "hard-fisted businessman" who is the hero, but the working men and women, the shrewd laborers. This research stance is harmless enough in itself—merely a pinch of incense on the altar of Jove—but when it is used by a charlatan, it may undermine a science.

Indeed, this was a technique which gave Lysenko his start. I quote from an unpublished manuscript of a distinguished Russian scientist now doing research in the United States:

"[Lysenko] started to make experiments and check them, not at the experimental stations or in the Institutes, but in the so-called 'house-laboratories' at the collective farms. These laboratories were organized by the government, chiefly for propaganda purposes. They were headed by farmers entirely ignorant in the methods of conducting experiments.

"Lysenko made his experiments . . . at these collective farms. While the scientific institutions and experimental stations found that these experiments did not show increase in yield of old, well-adapted varieties, the 'house laboratories' at the farms which had conducted the experiments under wrong methodological conditions showed unprecedented increase in yield. Not educated in the rules of conducting the experiments, the farmers generally planted the vernalized seeds earlier than the control; they gave them better soil and feeding conditions; they cultivated the plantings after vernalization earlier to receive better results, because each farmer and every collective farm were afraid to show negative results.

"If the results were not promising or were negative, Lysenko and Present considered such a collective farm a bad farm and the farmers poor workers. Negative results were not published. At the same time Lysenko and Present cried in the newspapers about their success and about the farms which helped, by their good work, to embed the new methods of agriculture. Such farms received fine reputations, and their administrations could expect to obtain difference rewards from the government. In such a way the new methods were approved. Of course, the people at scientific institutes and at the experimental stations could not agree with such methods of evidence."

This was the beginning of Lysenko's climb to power. Obviously he was not safe as long as honest scientists were free to oppose him. The elimination of these scientists then became a must, which was achieved at the meeting of the Lenin Academy of Agriculture from July 31 to August 7, 1948. When he reported that the central committee of the communist party had approved his stand, all opposition ceased and five scientists found it expedient to recant. Lysenko then got control of biological research in the communist world.

The social control of science by the communists has lasted long enough now to bring to light perhaps its most serious aspect. All scientists must conform. Those on the losing side of a controversy either recant or else; Siberia is always in the background. Those who would avoid disaster know what they have to do, and that is to be on the winning side. They may even enhance their own personal security by denouncing their colleagues whose published work has committed them to the losing side. The effects of this situation can readily be recognized. In fields where the politicians interfere, all are reduced to the lowest common denominator. Scientists who are either intimidated or merely disgusted act just like the quacks. In consequence, the Soviet career politicians have no way of discovering what their scientists really believe. They have cut themselves off from the truth. Even if Stalin, Malenkov, or Molotov had wanted to know the truth about Mendel, they could not learn it. They could find no reason to believe that anyone would tell them.

The third hazard is the communist party line in science. Only recently have we learned how far this line extends and

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What Future For Russian Science?

Continued from page 29

how much of modern science it excludes. Enforced literally, it would even forbid the utilization of atomic energy as it is wedded to the nineteenth-century definition of matter, but fortunately for the Soviet physicists, they are allowed a number of verbalistic evasions. If their atom bombs explode, their double talk is not analyzed semantically. The Soviet chemists are also allowed to quibble, provided their work remains useful. Both Albert Einstein and Ernst Mach are major villains in Russia and their contributions cannot be acknowledged openly, as Lenin himself set the line which excludes them. Practically every basic concept of modern physics is condemned and the materialistic philosophy of communism extends even so far as to deny the theory of resonance in chemistry. The party line also runs right through astronomy, where it approves certain hypotheses concerning the origin of the solar system and forbids others.

These sciences, however, have thus far escaped all purges and heresy hunts. Here lip service to dialectic materialism and to communism is apparently sufficient. If the scientists watch their words, their scientific work is not injured by too much party-line meddling. Much excellent work is still being done in these fields. In mathematics, where the party line does not interfere, Russian work is truly excellent; any country could be proud of the Russian mathematicians.

Communist orthodoxy has done its major damage in the biological, medical and agricultural sciences. In these fields intellectual integrity has been destroyed and the scientists liquidated. Marx and Engels in the 1870's set the party line in evolution theory and in heredity; their archaic notions have now congealed into a holy doctrine. It took this doctrine from 1926 to 1948 to gain complete control of genetical theory, but when it did, the results were spectacular. The utter destruction of Russian genetics rapidly ensued.

In 1950 the Soviet physiologists found that it was their turn to be put through the wringer. Here the line was set by Pavlov, a great physiologist in his time. Russian physiologists, even Pavlov's own students who had the temerity to go beyond him, have been rebuked and compelled to confess. They are allowed to work but only under supervision, and the attacks on them continue. As late as April 15 of this year, Biryukov, in *Izvestia*, questioned the sincerity of their confessions of error. Cellular pathology, cytology, psychology, and psychiatry have almost disappeared, and what is left of them exists only on the sufferance of the commissars. Soil science is still practically limited to the little that Vasilly R. Williams could understand; and Russian statistics now has the function of "proving" that whatever decision the party makes is the correct one.

One aspect of this impact of Soviet orthodoxy on Soviet science we should note most carefully: it affects the different sciences differently. In physics or engineering, where the validity of research can be measured easily and directly, it does little damage. In medicine and agriculture, where many factors enter into the end results and where quackery is often difficult to expose, its effects have been fatal. In certain of these fields, no scientists are left.

SCIENCE can be advanced only by those who revere the truth. In the past, science has lived in many lands and has made great progress in regions which now produce nothing. Science can be destroyed and has been—often. Wherever the climate of opinion is hostile to intellectual honesty, the existence of science is precarious.

How do the Russian communists look upon the truth?

The great geneticist, William Bateson, visited Russia in 1886. One of his observations sounds as if it were written yesterday: "He found that the information given to him by Russians was unreliable. It was not that they meant to lie, but they did not know what the truth is."

The recently published proceedings of the various Russian academies and scientific institutions are now available, and we can tell from these just how the Russians ignore the truth. We know what they said and did when genetics, physiology, and statistics were warped to fit the current orthodoxy. Not once were any real scientific data presented; the facts seem unimportant. What *was* important was the proper pose, the proper stance. Quotations were split so

WERNER WOLFF, BLACK STAR

C. Grove Haines

As Acting Dean of the Johns Hopkins School of Advanced International Studies, Dr. Haines organized the recent symposium on Soviet imperialism. The accompanying article is one of a series adapted from conference talks.

that the meanings could be misrepresented. Discredited experiments were presented as fact: in 1948, for instance, the results claimed by Kammerer were quoted as valid although Kammerer himself had confessed in 1926 that they were faked.

Many other examples could also be cited. History, of course, is made to order in Russia—but the specifications are constantly changing. As Bertram D. Wolfe expresses it, "Histories succeed each other as if they were being consumed by a giant chain smoker, who lights the first volume of the new work with the last of the old. Historians appear, disappear, and reappear; others vanish without trace."

Specifications are changing also in so many fields that the Great Bolshevik Encyclopedia apparently cannot be completed. The earlier volumes must be burned before the later ones can be finished.

"The hardest thing to take in Russia," wrote Frank Rounds, Jr., in *A Window on Red Square*, "is not so much the secret police, not even slave labor with all the human cruelty involved, as bad as these things are. To my mind the thing hardest to take, day in and night out, is the lie—the big, meaningful lie and the glib, little lie. More than anything in the world I hate the cool willingness of the handful in the Kremlin to lie about *anything*, any hour; and not only a willingness, but a rare ability, to do so. And this willingness and ability seem to be at the root of the whole system."

WHAT of the future of Russian science? Within limits, it is anybody's guess. We can be certain that, under decent conditions, Russia will produce many great scientists and their contributions will deserve our full respect.

The question which now faces us is, Will or can the communists create an intellectual climate in which science can thrive? In the distant future we may hope for the best, but present conditions are discouraging. Even if the central committee has the best possible intentions, their power for good is limited. We know what they must do if Russian science is to recover, but it may be psychologically impossible for them to take the necessary steps.

They would have to take most drastic action. The party line would have to be reversed in statistics, soil science, physiology, psychology, clinical medicine, pathology, evolution theory, and genetics. Can this be done? Perhaps; it is remotely possible.

Some reversals have already taken place. Stalin himself changed the line in linguistics by merely writing a letter, and Russian linguistics was given the chance to make up for lost time. Then, too, some of the quacks who rode to power with Lysenko have already been liquidated, and Lysenko himself is now criticized in no uncertain language. (Perhaps his days are numbered, but no steps have yet been taken to reverse his biology.) The communists have also started to hedge in soil science, for now Williams' theories (in double talk) "must not be applied too literally and dogmatically." The famous group of Moscow doctors who confessed to malpractice, murder, and treason have, after the death of Stalin, unconfessed themselves. The woman doctor who was one of the chief accusers of the group—which included, incidentally, her own husband—and who received the Stalin prize for her efforts, has been rebuked and has had her prize taken away from her. She may even have had to take her husband back!

These instances show that the Russians can reverse a party line in science. Will they do so in the sciences which they have injured most?

In some sciences the reversal of the party line is easy. In soil science, only Williams need be repudiated. The line in statistics can be changed as easily as it was in linguistics. In physiology all that is needed is to allow the science to grow beyond the point reached by Pavlov. The same is true for psychology. In pathology, however, the communists will have to repudiate Engels himself, and this will be harder. The real difficulty will arise if attempts are made to revive genetics and evolution theory, for here not only will Michurin and Lysenko have to be repudiated, but also Stalin and the central committee of the communist party. And in addition to all this, the communists will have to confess that

THE MONTH
at Johns Hopkins

A calendar of events
October 26—November 30

SINCE THIS ISSUE WENT TO PRESS SEVERAL WEEKS AHEAD OF THE PERIOD COVERED IN THIS CALENDAR, THERE MAY BE LAST-MINUTE CHANGES AND ADDITIONS IN THE DATES AND TIMES OF EVENTS. IT IS ADVISABLE TO CONFIRM THEM BY CONSULTING THE DAILY NEWSPAPERS OR BY TELEPHONING THE PUBLIC RELATIONS OFFICE AT JOHNS HOPKINS.

ALUMNI MEETINGS

SOUTHERN MEDICAL ALUMNI—A Johns Hopkins dinner for alumni and their wives will be held in conjunction with the meeting of the Southern Medical Association in Atlanta. (Tuesday, Oct. 27, at 7 p.m., Atlanta Biltmore Hotel; tickets $7.)

TELEVISION

THE JOHNS HOPKINS SCIENCE REVIEW (Dates of programs apply only to stations which carry the show "live" on Wednesdays at 8 p.m. EST. For schedules in cities where the program is shown on film, consult newspapers for day and time of program): OCT. 28—Surgical Sewing. NOV. 4—Fear. NOV. 11—Freedom of Research. NOV. 18—Birth of a Flame. NOV. 25—First Day of Life.

SPECIAL EVENTS

FIRST UNIVERSITY LECTURE—William F. Albright, Spence Professor of Semitic Languages at Johns Hopkins, will open this year's series of monthly lectures with an address entitled "Five Years of Manuscript Discovery in the Dead Sea Valley." (Wednesday, Nov. 11, at 4:15 p.m., Remsen Hall, room 1.)

SIMON NEWCOMB ASTRONOMICAL SOCIETY—Founded in 1951 for faculty and students, the Society meets monthly to hear lectures and, with the cooperation of the weather, to work at the campus observatory. The Society charges no dues and welcomes all who are interested in astronomy. Information on dates of meetings may be had from Professor Paul Hessemer, Latrobe Hall (HOpkins 7-3300, ext. 393) or the Public Relations Office, the Johns Hopkins University, Baltimore 18.

MEDICAL MEETINGS

SOCIETY OF HYGIENE—Tuesday, Oct. 27, at 6 p.m. (School of Hygiene, room 111).

JOHNS HOPKINS MEDICAL SOCIETY—Monday, Nov. 9, at 8:15 p.m. (Hurd Hall).

DELAMAR LECTURE—Sir Andrew Davidson, chief medical officer in the Department of Health, Scotland, will speak on "Science and Public Health" (Tuesday, Nov. 17, at 5 p.m., Hurd Hall).

VARSITY SPORTS

NOTE—No admission fee is charged at any Johns Hopkins home athletic events. Persons who wish to attend Hopkins games during the 1953–1954 University year may obtain a free season ticket by sending a stamped, self-addressed envelope to the Department of Physical Education and Athletics, the Johns Hopkins University, Baltimore 18, Md. Alumni should address their requests to the Alumni Relations Office, the Johns Hopkins University, Baltimore 18, Md.

FOOTBALL—Johns Hopkins vs. RANDOLPH-MACON on Saturday, Oct. 31 (Homewood Field at 2 p.m.); SWARTHMORE on Saturday, Nov. 7 (away); DICKINSON on Saturday, Nov. 14 (away); WESTERN MARYLAND on Saturday, Nov. 21 (Homewood Field at 2 p.m.).

SOCCER—Johns Hopkins vs. DREXEL on Saturday, Oct. 31 (away); LOYOLA on Wednesday, Nov. 4 (Homewood at 3 p.m.); WASHINGTON on Saturday, Nov. 7 (away); MARYLAND on Tuesday, Nov. 10 (Homewood at 3 p.m.); DELAWARE on Saturday, Nov. 14 (Homewood at 2 p.m.); WESTERN MARYLAND on Saturday, Nov. 21 (Homewood at 12 noon).

CROSS-COUNTRY—Johns Hopkins vs. LOYOLA on Tuesday, Oct. 27 (away); a triangular meet with DELAWARE and GETTYSBURG on Friday, Oct. 30 (at Newark, Del.); CATHOLIC on Wednesday, Nov. 4 (Homewood at 4 p.m.); SWARTHMORE on Saturday, Nov. 7 (away); MIDDLE ATLANTIC CHAMPIONSHIPS on Friday, Nov. 13 (at Muhlenberg); MASON-DIXON CHAMPIONSHIPS on Saturday, Nov. 21 (at Gallaudet).

DRAMA

PINOCCHIO—A dramatization by the Johns Hopkins Children's Educational Theater of Carlo Lorenzini's tale of the puppet who wanted to become a real boy. Friday, Oct. 30, at 4 p.m.; Saturday, Oct. 31, at 10:30 a.m. and 3 p.m.; and Sunday, Nov. 1, at 3 p.m. All performances will be in the Playshop on the Homewood campus. (Tickets may be purchased from the Children's Educational Theater, the Johns Hopkins University, Baltimore 18, or from Bonney Concert Bureau, 327 N. Charles St., Baltimore 1. Single admission: Children, 50 cents; adults, 80 cents. Season subscription for four plays: children, $1.75; adults, $3.)

MUCH ADO ABOUT NOTHING—The Playshop's production of Shakespeare's comedy, done in the modern manner. Tuesday through Saturday, Nov. 10–14, at 8:30 p.m.; the Playshop, Homewood campus. (Tickets may be purchased from the Johns Hopkins Playshop, Baltimore 18. Single admission, $1.20; subscription price for the three plays of the season, $3.)

BLAKESLEE-LANE

Chesapeake Bay Institute

What Future For Russian Science?

Continued from page 31

the biology of Marx and Engels is in error, and this may be impossible.

But the Kremlin faces another problem. How will they know what they should do? They cannot trust the advice of their own scientists, for now the Russian scientists will tell their masters what they think their masters want to hear. Can the Kremlin take its view from the scientists of the free world? They know something is wrong with their science, but can they trust the bourgeois scientists? Might not the scientists who are the tools and slaves of the capitalists play some sort of joke on the true believers in Marx?

How can Soviet science recover? There is a long, hard road ahead. Mathematics is sound; astronomy, physics, and chemistry can be freed from the verbalistic nuisances without too much trouble. Geology can be relieved of its "practical-application" shackles. These sciences will recover if only they are let alone, if they are supported but freed from political meddling.

But disciplines which are now controlled by quacks cannot be rescued so easily. Fields in which no scientists remain can recover quickly only if scientists from abroad are imported to teach a native crop or if Russian students are sent abroad to study. Can this happen? What honest geneticist would now care to go to Russia to work, and what dangerous thoughts might not Russian students acquire abroad? Foreign scientific publications can and are being bought by the Russians in great numbers. This helps, but more is needed.

At best Russian recovery will be very slow. But we must not forget that the sciences which *directly* affect the Russian military strength are the ones which have been injured least.

We can readily see that the Soviet authorities have gotten themselves into a very serious dilemma. We should watch their actions with the greatest interest and should be alert to discover just what actions they take. No matter what they do, they should be very amusing.

ROBERT MOTTAR, SCOPE

NEXT MONTH

Christmas came early this year for a group of sixth-grade students at the Homewood Demonstration School at Johns Hopkins. As a classroom project, the children prepared, for presentation before other classes in the school, a junior edition of the Johns Hopkins Science Review, the University's television show. Lynn Poole, who produces the real review, happened to sit in as a guest at one of the performances—and then came the Christmas part of it all. Robert Mottar has captured a happy story in pictures, which will appear in the December issue of

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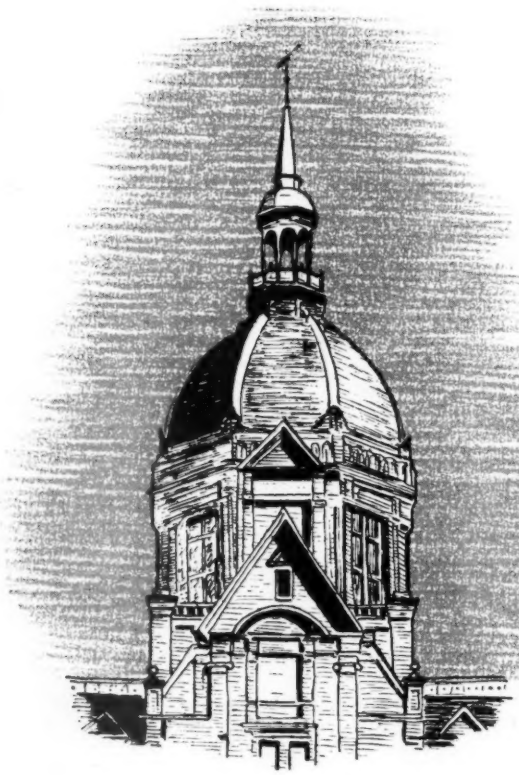

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To every one of us, the direct and personal benefit of medical teaching, research, and healing is immeasurable. To help strengthen the free institutions which make it possible is one of the surest investments in his own welfare which any man can make.

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